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Cotton Fiber and Processing Test Results

CROP OF

1976



Agricultural Marketing Service
U.S. DEPARTMENT OF AGRICULTURE
Memphis, Tenn. 38122 December 31, 1976

These reports are published bi-weekly during the harvesting season and will be summarized in a comprehensive report at the end of the crop year. A detailed description of the tests shown in this report may be found in the summary report for the previous season.1/ These reports are available on request from the Standardization Section, Cotton Division, Agricultural Marketing Service, U. S. Department of Agriculture, 4841 Summer Avenue, Memphis, TN 38122.

1/ Summary of Cotton Fiber and Processing Test Results, Crop of 1975,
USDA, AMS, Cotton Division, May 1976.

COTTON FIBER AND PROCESSING TEST RESULTS, CROP OF 1976

Discussion of Test Results

Southwestern short staple cottons tested through December 24 this season are longer, coarser and weaker than a year earlier, according to the Cotton Division, Agricultural Marketing Service, USDA. Shirley Analyzer nonlint content is lower, while picker and card waste is higher than a year ago. Yarns spun from these samples are weaker but have fewer yarn imperfections. Average spinning potential yarn number is lower.

Average test results for all medium staple samples show fibers to be shorter and stronger than last season. Shirley Analyzer nonlint content is lower, but picker and card waste is higher. Yarn skein strength is slightly higher and imperfections are fewer than a year earlier. Spinning potential is slightly lower.

Southeastern medium staple samples are slightly longer, more uniform, coarser and stronger at both zero gage and 1/8" gage strength tests. Shirley Analyzer nonlint content is lower. Yarns spun from these samples are stronger with fewer imperfections. Spinning potential yarn number is higher.

South Central medium staple samples tested thus far this season are shorter and less uniform than a year ago. Cottons are stronger at zero gage strength tests. Shirley Analyzer nonlint content is lower, while picker and card waste is higher. Yarns are slightly stronger and have fewer yarn imperfections. The average spinning potential yarn number is lower.

Southwestern medium staple samples tested are more uniform, coarser and slightly weaker at zero gage strength tests. Shirley Analyzer nonlint content is lower, while picker and card waste is higher than last season. Yarns are stronger and have higher appearance grades. Imperfections are fewer.

Medium staple samples tested from the West have slightly coarser and weaker fibers than a year ago. Picker and card waste is slightly higher. Yarns spun from these samples are weaker with lower appearance grades. Spinning potential is lower.

Average test results for all long staple samples tested through December 24 show longer and coarser fibers than a year earlier. Picker and card waste is lower as is comber waste. Yarns spun from these samples are stronger than last season and have fewer imperfections.

Long staple samples from the Southeast are much longer, more uniform and stronger than a year ago. Shirley Analyzer nonlint content, picker and card waste and comber waste are all lower than last season. Yarns spun from these samples are stronger. Appearance grades are lower. Average spinning potential is higher.

No additional lots were received from the South Central or Western area during this test period.

American Pima samples tested to date show fibers to be longer, less uniform and weaker at zero gage strength tests. Picker and card waste and comber waste are both lower than a year ago. Yarn quality is about the same as a year ago.

Table 1.--Cotton: Averages of fiber and processing tests from selected gin points in the United States through December 24, 1976

Staple group Area, and Crop year	Lots tested	No.	Fiber test results						Processing test results						
			Fibrograph		Mike fine- ness span		Fiber strength Zero gage		S A nonlint waste		P & C Skein str.		Yarn quality Appearance sections		Spin. Potent.
			2.5% span	50/2.5 unif.	4.4	4.4	gage	1/8"	g/tex	Mpsi	Rdg.	Pct.	Pct.	Ibs. 22s Carded Yarn	Yarn No.
Short Staple:															
Southwest	38	.94	45	3.8	86	22	3.7	6.7	97	112	112	112	112	17	41
1975	36	.96	45	4.4	85	21	3.3	7.1	87	112	112	112	112	14	38
Medium Staple:															
Southeast	41	1.07	44	4.2	83	22	3.8	6.3	97	98	98	106	98	25	53
1975	45	1.08	45	4.6	85	23	3.1	6.4	106	98	98	108	99	20	56
South Central	113	1.10	45	4.3	85	23	3.2	5.6	105	101	101	108	99	17	56
1975	119	1.08	44	4.2	88	23	2.7	6.3	105	101	101	108	101	21	59
Southwest	31	1.06	43	3.8	83	22	3.5	5.9	102	88	88	104	96	31	56
1975	31	1.06	45	4.1	82	22	3.3	6.5	102	96	96	104	96	22	56
West	65	1.12	45	4.1	93	26	2.3	5.5	124	94	94	120	90	22	69
1975	56	1.12	45	4.2	90	25	2.2	5.7	120	90	90	120	90	19	67
U.S. Average															
1975	250	1.09	45	4.2	86	23	3.1	5.7	108	97	97	110	110	23	60
1976	251	1.08	45	4.2	87	24	2.7	6.2	110	96	96	110	110	19	58
Significant difference 2/															
		0.02	2	0.2	2	1	0.5	0.5	4 (22s)	5	5	2	2	3	

1/ Based on a limited number of samples of modal quality
 2/ Minimum differences considered to be significant for comparisons in this table.

Table 1.--Cotton:

Averages of fiber and processing tests from selected gin points in the United States through December 24, 1976
 1/ (Continued)

Staple group, Area, and Crop year	Lots	Fiber Test Results						Processing Test Results						
		Span	Length	Mike Zero gage	Strength 1/8"	SA Non- lint	P&C Waste	Comber Waste	Yarn Quality		Appearance		Imperfctns	
									Carded	combed	carded	combed	card	comb
No.	No.	In.	Pct.	Rdg.	Mpsi	G/tr	Pct.	Pct.	Lbs. 22s	Lbs. Carded & Combed Yarn	Indx	Indx	No.	No.
Long Staple: Southeast														
1975	17	1.09	43	4.2	85	23	3.7	9.6	18.8	91	115	110	20	10
1976	11	1.15	45	4.3	87	25	3.1	6.7	15.8	116	137	103	115	9
South Central														
1975	6	1.11	43	4.0	88	23	3.8	9.2	18.1	104	125	110	120	9
1976	3	1.12	42	3.7	91	26	3.4	6.8	20.3	109	137	97	103	10
West														
1975	12	1.16	45	3.4	95	26	2.5	7.9	15.9	138	158	89	102	16
1976	1	1.20	48	3.8	89	26	2.9	6.4	11.8	147	162	90	100	12
U.S. Average														
1975	35	1.12	44	3.9	89	24	3.3	9.0	17.6	109	132	103	113	12
1976	15	1.15	44	4.2	88	25	3.2	6.7	16.4	117	138	101	112	9
<u>Array</u>														
<u>50's Combed Yarn</u>														
<u>American Pima</u>														
Extra Long Staple: West														
1975	7	1.47	31	3.7	105	34	2.4	7.5	18.3	66	111	111	2	
1976	10	1.48	30	3.7	102	34	2.4	6.6	15.3	65	109	109	2	
Significant Difference 2/		0.02	2	0.2	2	1	0.5	0.5	0.5	4(22s)	4(22s)	5	5	2
										2(50s)	2(50s)	5	5	2
												3		

1/ Based on a limited number of samples of modal quality
 2/ Minimum differences considered to be significant for comparisons in this table.

Table 2 --Cotton, American upland short staple: Quality characteristics by production areas, crop of 1976

Production Area, Classification & Sample Number		Fiber Test Results										Processing Test Results - Carded Yarns										
		Digital Fibrograph		Mike		Fiber Strength		S.A. Elong- at'n 1/8"		Color Raw Stock		P & C Waste		Elongation		Appearance Index		Imperfect's 8s or 22s or 27 tx		Spin. Poten- tial		
No.	Grade	2.5% span	Unif. span	Zero Gage	1/8"	Gage	Gage	Gra	Non- lint	Yel	74 tx	22 tx	8s or 22s or 27 tx	74 tx	8s or 22s or 27 tx	74 tx	8s or 22s or 27 tx	No.	No.	No.	No.	
<u>32s</u>		In	Pet	Rdg	Mpsi	G/tex	Pct	Pct	No.	No.	Lbs	Lbs	Pct	Pct	No.	No.	No.	No.	No.	No.	No.	
SOUTHWEST AREA																						
CENTRAL TEXAS																						
WACO 3 LM	51 1/32	1.00	43	4.6	84	22	5.9	3.8	3	3	8.4	284	96	6.7	6.0	130	120	27	16	50		
NORTHWEST TEXAS																						
ANSON 1 LM LT SP	52 2/31	0.97	46	4.3	81	21	8.1	3.3	3	3	7.0	270	88	7.7	6.7	120	100	36	19	42		
BURKBURNETT 2 LM	51 1/33	1.04	46	5.0	87	22	6.7	3.6	2	3	6.5	285	95	7.9	5.6	130	110	25	15	45		
HART 1 MID SP 2 SLM SP	33 30	0.93	45	3.3	83	21	7.2	4.1	4	6	7.5	279	89	7.4	6.3	120	110	36	21	40		
LAMESA 2 SLM LT SP	42 3/31	0.96	46	4.1	80	20	7.5	3.8	1	4	6.8	279	90	8.5	6.7	130	120	17	10	42		
LOCKNEY 2 LM LT SP	52 2/32	0.95	46	3.6	83	20	6.4	3.5	3	4	7.1	308	103	7.7	6.2	120	110	36	17	51		
LOCKNEY 2 SLM SP	43 30	0.92	47	3.9	82	20	6.7	3.8	3	5	8.1	269	85	6.9	5.3	130	110	39	23	36		
LOOP 2 SLM	41 29	0.87	47	5.4	83	19	6.4	2.3	1	4	6.9	250	72	6.3	5.2	130	110	14	10	26		
LUBBOCK 1 MID SP	33 31	0.97	47	4.0	80	22	7.4	3.4	3	5	6.1	307	102	8.2	6.7	130	120	24	13	56		
RULE 1 SLM	41 32	1.02	44	4.8	87	20	6.9	2.7	2	3	6.2	278	90	7.1	5.7	130	110	23	10	44		
TULIA 2 SLM LT SP	42 30	0.94	47	4.0	86	21	7.5	3.6	2	4	6.5	278	91	7.1	5.9	130	120	21	13	40		
OKLAHOMA	GRANDFIELD		42 31	0.96	45	5.3	88	20	6.9	2.6	2	7.0	256	79	6.5	5.3	130	110	19	13	32	

1/ Reduced from 41 because of bark
 2/ Reduced from 42 because of bark
 3/ Reduced from 32 because of bark

Table 3 --Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1976

Production Area, Classification & Sample Number		Fiber Test Results										Processing Test Results - Carded Yarns										
No	Grade Name & Code	Digital Fibrograph	Fiber Strength	S.A.	Color	P & C	Strength	Elongation	Appearance Index	Imperfect's	Spin.											
	Stple	2.5% span	Mike	Zero 1/8"	Raw Stock	Waste	22s or 50s	50s or 22s	50s or 22s	50s or 22s	Potential											
			Rdg	Mpsi	G/tex	Pct	Lbs	Lbs	Pct	No	No											
			In	Pct			Pct	Pct	Pct	No	No											
			32s							No	No											
SEOUTHEAST AREA																						
ALABAMA	MERIDIANVILLE	41	33	1.03	45	4.0	85	24	6.8	3.2	2	3	7.3	96	28	5.9	3.7	90	70	26	19	48
3 SLM																						
MONTGOMERY																						
2 SLM	35	1.11	44	4.6	81	23	7.2	2.2	1	2	6.5	106	36	6.3	4.6	100	80	19	15	57		
3 SLM	LT SP	42	34	1.15	43	4.2	76	22	8.3	2.5	2	5.6	111	38	6.8	5.3	80	70	29	25	69	
MOUNDVILLE																						
2 SLM	34	1.06	44	4.5	83	22	6.1	1.9	1	3	5.8	101	33	5.6	4.4	90	70	24	18	53		
NORTHPORT																						
3 SLM	34	1.09	44	4.2	79	22	7.7	2.0	1	3	5.8	109	36	6.2	4.8	90	80	20	19	58		
PRATTVILLE																						
2 SLM	35	1.11	45	4.5	92	25	5.6	2.7	2	2	6.7	117	40	5.6	4.5	100	80	17	17	62		
SCOTTSBORO																						
3 SLM	SP	43	34	1.11	45	3.9	81	23	6.6	2.9	3	5	6.4	118	41	6.2	4.8	100	70	25	22	72
GEORGIA																						
ALLENSTOWN																						
3 LM	51	1.07	46	5.0	84	23	6.5	4.4	3	3	7.9	96	29	5.3	3.5	90	80	26	20	43		
BOSTWICK																						
3 LM	35	1.06	47	4.4	88	23	7.2	4.3	3	3	7.9	115	37	6.1	4.5	100	90	14	11	63		
SHELLMAN																						
2 SLM	LT SP	42	35	1.08	45	4.9	79	22	6.7	1.8	3	3	5.7	98	32	5.8	3.9	90	80	17	13	53
SOCIAL CIRCLE																						
2 SLM	41	35	1.08	47	4.7	84	23	6.1	3.9	2	3	7.0	106	34	5.7	4.3	90	70	24	22	59	
SOUTH CAROLINA																						
BLACKVILLE																						
3 LM	LT SP	52	34	1.10	45	4.6	88	23	6.4	3.5	2	3	6.9	110	38	5.9	4.5	90	80	22	20	60

Table 3 --Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1976--(Continued)

Production Area, Classification				Fiber Test Results								Processing Test Results - Carded Yarns									
Sample Number	Digital Fibrograph	Mike	S.A.	Color	P & C	Strength	Elongation	Appearance Index	Imperfect's				Spin. Potential								
No	Grade	Unif. Stple span	Zero 1/8"	Non-Lint Gage	Raw Stock	Waste	22s or 50s	22s or 50s	22s or 50s	22s or 50s	22s or 50s	22s or 50s	22s or 50s	22s or 50s	22s or 50s	22s or 50s					
22s	In	Pct	Rdg	Mpsi	G/tex	Pct	No	No	Pct	Lbs	Pct	No	No	No	No	No					
SOUTH CENTRAL AREA																					
ARKANSAS OSCEOLA 3 LM	51	34	1.05	42	3.5	83	21	5.8	1.8	2	2	9.4	99	32	5.6	3.9	80	60	36	29	50
LOUISIANA EPPS 3 MID	31	35	1.09	45	4.7	87	25	7.2	2.2	1	3	6.2	115	37	6.5	4.7	90	80	17	11	62
LAKE PROVIDENCE 3 SLM	41	35	1.10	44	4.1	86	23	7.5	3.0	1	2	6.6	118	39	6.9	4.9	90	70	21	17	67
LAKE PROVIDENCE 3 SLM	41	34	1.07	45	4.6	82	23	6.6	2.5	1	2	7.0	106	34	6.4	4.2	90	70	25	16	55
MONROE 3 SLM	41	34	1.09	44	4.6	85	24	7.7	2.2	1	2	5.4	113	38	6.1	4.4	90	70	19	15	63
OAK RIDGE 3 SLM	41	34	1.08	47	4.8	91	23	6.2	2.2	1	2	5.9	114	38	6.0	4.4	100	80	20	14	60
OPELOUSAS 3 SLM	41	34	1.03	44	3.8	82	22	6.6	3.4	2	2	7.6	97	30	6.0	4.2	90	70	23	20	56
SHREVEPORT 3 SLM	41	35	1.10	43	3.7	86	23	7.7	1.8	1	3	5.1	109	37	6.7	4.7	100	80	15	10	59
MISSISSIPPI DUCK HILL 3 SLM	41	34	1.01	43	3.9	83	21	7.6	2.6	2	2	6.9	102	32	6.1	4.4	110	70	18	19	59
NATCHEZ 3 SLM	41	35	1.11	43	4.1	80	24	6.7	2.8	1	2	6.9	111	36	6.5	4.9	100	90	14	12	61
SUNFLOWER 3 SLM	41	33	1.05	43	4.3	84	23	6.3	2.8	2	2	7.4	104	35	6.0	4.3	100	80	15	17	59
TRIBBETT 3 LM	51	34	1.04	46	4.9	89	23	5.8	4.3	3	2	8.2	100	33	5.1	3.7	110	80	19	15	53

Table 3--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1976--(Continued)

Table 3 --Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1976--(Continued)

Production Area, Classification & Sample Number		Fiber Test Results								Processing Test Results - Carded Yarns									
		Digital Fibrograph		Fiber Strength		S.A. Elong- ation in 1/8"		Color Raw Stock Waste		Strength		Elongation		Appearance Index		Imperfect hairs		Spin- Potential	
No.	Grade	Staple span	2.5% Unif. span	Mike	Zero Gage	Gage	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Tbs	Pct.	Pct.	No.	No.	No.	No.
WEST AREA--(Continued)																			
CALIFORNIA																			
ARVIN	41	36	1.12	45	3.8	89	26	6.3	2.8	1	2	6.4	1/	124	42	6.1	4.7	100	70
3 SLM																			21
BAKERSFIELD	31	35	1.11	45	3.9	84	24	6.4	ACALA SJ-2	0	3	5.2	1/	120	42	6.5	5.0	80	70
3 MID																		19	14
BAKERSFIELD	41	35	1.09	45	4.0	89	26	5.9	ACALA SJ-2	2.2	2	6.4	124	42	6.0	4.6	90	70	17
3 SLM																		17	71
BUTTONWILLOW	31	36	1.13	46	4.1	92	26	6.2	ACALA SJ-2	1.8	0	3	4.9	128	44	6.1	4.7	100	70
3 MID																		14	71
CHOCOCHILLA	41	36	1.15	48	4.4	95	28	6.3	ACALA SJ-4	2.7	2	3	5.7	141	50	6.4	5.5	100	80
3 SLM																		24	19
COALINGA																			85
3 SLM PLUS	40	36	1.13	47	3.8	91	26	6.4	ACALA SJ-2	1.7	1	3	6.8	130	45	5.9	5.0	80	70
FIREBAUGH																		16	13
3 SLM	41	36	1.13	46	4.1	91	26	6.2	ACALA SJ-2	2.3	1	3	5.9	123	43	6.1	4.7	90	70
KERMAN																		21	13
3 MID	31	36	1.15	47	4.0	90	27	6.4	ACALA SJ-2	2.0	1	3	6.3	132	46	6.5	4.7	90	70
LOST HILLS																		18	18
3 SLM	41	36	1.13	47	4.3	99	27	6.1	ACALA SJ-4	2.7	1	3	6.6	136	48	6.2	4.7	90	70
TULARE																		24	19
3 SLM	41	36	1.13	46	4.0	96	26	5.9	ACALA SJ-4	2.4	2	5.3	134	49	6.1	4.8	90	70	77
WESTMORLAND																		27	21
1 MID LT SP	32	35	1.07	45	5.0	88	24	6.1	DELTA PINE 61	1.8	1	3	6.7	97	30	5.4	3.7	90	80
																		21	19
																		47	

1/ Cotton stuck to processing rolls

Table 4 --Cotton, American upland long staple: Quality characteristics by production areas, crop of 1976

Production Area, Classification		Fiber Test Results								Processing Test Results - Carded Yarns									
Sample Number	Digital Fibrograph	Fiber Strength		Elongat'n 1/8"		S.A.	Color	P & C		Elongation		Appearance Index		Imperfect'ns		Spin. Potential			
No.	Grade	Staple	2.5% span	Unif.	Mike	Zero	1/8"	Non-Lint	Raw Stock	Comber Waste	22s or 50s	22s or 50s	22s or 50s	22s or 50s	22s or 50s	22s or 50s			
32s	In	Pct	Rdg	Mpsi	G/tex	Pct	Pct	No.	Pct	Lbs	Pct	Pct	No.	No.	No.	No.			
SOUTHEAST AREA																			
ALABAMA																			
ALBERTA	41	34	1.09	42	3.9	90	23	5.6	3.7	1	2	8.4	104	95 PERCENT	90	80	26		
2 SLM									*	18.1	127	43	34	5.4	3.8	110	90	9	
GEORGIA																			
MADISON	3 SLM	LT SP	42	35	1.16	43	4.4	85	COKER	310	7.0	4.0	2	4	7.1	111	90	17	
												*	14.7	47	5.5	110	100	8	
NORTH CAROLINA																			
DUNN	3 SLM	41	35	1.13	44	4.0	90	25	6.5	3.3	2	3	6.7	100 PERCENT	100	90	16	57	
										*	15.6	138	51	4.2	4.9	110	100	10	11
SOUTH CAROLINA																			
HARTSVILLE	3 SLM	LT SP	42	36	1.16	45	4.3	87	COKER	310	6.6	3.4	3	3	7.0	118	90	70	30
										*	15.1	140	50	6.0	4.7	100	90	13	11

* Comber Waste and Combed Yarn Data

11

Table 5-Cotton, American Pima extra long staple: Quality characteristics by production areas, crop of 1976

Production Area, Classification & Sample Number		Fiber Test Results										Processing Test Results - Combed Yarns					
No	Grade Name & Code	Stple	Array Length	Mike	Fiber Strength	Elon- gat'n 1/8"	S.A. Non- Lint	Color Raw Stock	P & C Comber Waste	Strength	Elongation	Appearance Index	Inperfect's				
32s	In	Pct	Rdg	Mpsi	G/tex	Pct	Pct	No	No	Pct	Pct	No	No	No	No	No	No
WEST																	
ARIZONA CASA GRANDE	4	1.50	30	3.8	103	35	PIMA S-5	100 PERCENT	15.1	67	35	5.3	4.5	110	110	2	1
SAFFORD	4	1.52	32	4.2	103	35	PIMA S-5	93 PERCENT	14.6	64	34	5.6	4.4	110	110	1	2
NEW MEXICO COLUMBUS	3	44	1.48	31	3.2	95	PIMA S-5	94 PERCENT	13.7	66	35	5.6	4.9	110	120	1	2
WEST TEXAS EL PASO	2	44	1.51	29	3.6	99	PIMA S-4	85 PERCENT	14.2	65	35	5.5	4.7	100	110	1	2
TORNILLO	3	46	1.51	30	3.5	100	PIMA S-5	100 PERCENT	15.3	68	37	5.6	4.8	100	110	3	2